

CLAIMS

1. A method for selecting a resource from a plurality of resources, said method comprising:
- determining a score for said resource on the basis of a stochastic property of said resource;
 - defining an interval corresponding to said resource, said interval having an extent that depends on said score;
 - generating a random number; and
 - selecting said resource if said random number is within said interval.
2. The method of claim 1, wherein defining an interval corresponding to said resource comprises
- determining a normalized score for said resource; and
 - defining an extent of said interval on the basis of said normalized score.
3. The method of claim 2, wherein determining a normalized score comprises
- evaluating a sum of scores assigned to each resource in said plurality of resources; and
 - normalizing said score assigned to said resource by said sum of scores.
4. The method of claim 1, wherein generating a random number comprises generating a uniformly distributed random number.
5. The method of claim 1, further comprising polling a selected resource to update a prior measurement of said stochastic property associated with said resource.

Queue Intervals update workload
Sampling Intervals Generate random number

poll Queue length
near 2

6. The method of claim 1, wherein determining said score comprises estimating a present value of said stochastic property on the basis of a prior measurement of said stochastic property.
7. The method of claim 6, further comprising selecting said prior measurement to be a most-recently known value of said stochastic property.
8. The method of claim 1, further comprising selecting said resource to be a processor having a variable workload.
9. The method of claim 8, wherein determining a score for said resource comprises obtaining an estimate of a present workload of said processor.
10. The method of claim 9, wherein determining a score for said resource further comprises evaluating an inverse of said estimate of said present workload of said processor.
11. The method of claim 9, wherein obtaining an estimate of a present workload of said processor comprises retrieving, from memory, a last-known workload of said processor.
12. The method of claim 1, further comprising selecting said resource to be a queue having a variable queue-length.
13. A method for selecting a queue from a plurality of queues, said method comprising:
 - assigning a score to said queue;
 - defining an interval corresponding to said queue, said interval having an extent that depends on said score;
 - generating a random number; and
 - selecting said queue if said random number is within said interval.

13 2 14. The method of claim 13, wherein assigning said score comprises determining an effective queue-length of said queue.

13 3 15. The method of claim 14, wherein determining said effective queue-length comprises estimating a queue-length of said queue.

16. The method of claim 15, wherein determining said effective queue-length comprises determining a priority of said queue.

17. The method of claim 16, wherein assigning said score comprises weighting said queue-length with said priority.

2 18. The method of claim 13, wherein defining an interval comprises selecting said extent on the basis of a normalized score.

3 19. The method of claim 18, wherein selecting said extent on the basis of a normalized score comprises:

evaluating a sum of scores of all queues in said plurality of queues; and

normalizing said score for said queue by said sum of scores.

4 20. The method of claim 13, wherein generating a random number comprises generating a uniformly distributed random number.

13 21. The method of claim 15, wherein estimating the number of waiting elements in said queue comprises determining a last-known queue-length for said queue.

5 22. The method of claim 21, further comprising:

polling said selected queue to determine a queue-length of said selected queue; and

updating said last-known queue-length for said selected queue.

23. The method of claim 22, wherein updating said last-known queue length comprises polling said selected queue to determining a number of waiting elements in said selected queue.
24. The method of claim 23, further comprising caching said number of waiting elements for use in estimating a length of said queue.
25. A computer-readable medium having encoded thereon software for selecting a resource from a plurality of resources, said software comprising instructions for:
- determining a score for said resource on the basis of a stochastic property of said resource;
 - defining an interval corresponding to said resource, said interval having an extent that depends on said score;
 - generating a random number; and
 - selecting said resource if said random number is within said interval.
26. A computer-readable medium having encoded thereon software for selecting a queue from a plurality of queues, said software comprising instructions for:
- assigning a score to said queue;
 - defining an interval corresponding to said queue, said interval having an extent that depends on said score;
 - generating a random number; and
 - selecting said queue if said random number is within said interval.